

## WHAT IS CLAIMED IS:

### 1. A color ink-jet printer comprising:

a first ink ejecting portion operable to eject droplets of a black ink;

a second ink ejecting portion operable to eject droplets of an ink of a color other than black;

a first control portion operable to control said first ink ejecting portion such that a total volume of at least one droplet of said black ink ejected by said first ink ejecting portion to form each dot of the black ink on a recording medium is equal to a selected one of a plurality of different total volume values; and

a second control portion operable to control said second ink ejecting portion such that a total volume of at least one droplet of the ink of said color other than black, which is ejected by said second ink ejecting portion to form each ink dot of said color other than black on the recording medium, is equal to another of said plurality of different total volume values which is smaller than said selected one total volume value.

2. The color ink-jet printer according to claim 1, wherein said first and second control portions are operable to control said first and second ink ejecting portions such that the total volume of said at least one droplet forming each dot of the black ink, and the total volume of said at least one droplet forming each ink dot of said color other than black are respectively kept at said one and another of said plurality of

different total volume values, throughout entire operations of said first and second ink ejecting portions to print an image on the recording medium, irrespective of gray-scale values at respective picture elements of said image.

3. The color ink-jet printer according to claim 2, wherein said first and second control portions are operable to select said one and another of said plurality of different total volume values, on the basis of a presently selected one of a plurality of different print modes which correspond to respective different values of resolution of said image.

4. The color ink-jet printer according to claim 1, wherein said first and second control portions are operable to select said one and another of said plurality of different total volume values, on the basis of respective gray-scale values at respective picture elements of said image at which respective ink dots are to be formed by said first and second ink ejecting portions according to print data.

5. The color ink-jet printer according to claim 1, wherein said first and second control portions are operable to select the total volume of said at least one droplet forming each dot of the black ink, and the total volume of said at least one droplet forming each ink dot of said color other than black, differently depending upon local areas of said image, as long as the total volume value of said at least one droplet forming

each black ink dot is made larger than the total volume value of said at least one droplet forming each ink dot of said color other than black, in each local area of the image in which the black ink dots are adjacent to the ink dots of said color other than black.

6. The color ink-jet printer according to claim 1, further comprising a pulse-waveform-data memory for storing pulse-waveform data indicative of a plurality of different waveforms of drive pulse signals to be applied to said first and second ink ejecting portions to eject the droplets of the black ink and the ink of said color other than black, said plurality of different waveforms corresponding to said plurality of different total volume values, respectively, and wherein said first and second control portions are operable to select respectively one and another of said plurality of different waveforms which respectively correspond to said one and another of said plurality of different total volume values.

7. The color ink-jet printer according to claim 1, further comprising first and second pulse generators operable to generate drive pulse signals to be applied to said first and second ink ejecting portions such that the total volume of said at least one droplet forming each dot of the black ink and the total volume of said at least one droplet forming each ink dot of said color other than black are variable as the number of said at least one droplet to be ejected from each of said first and second ink ejecting portions is changed while the volume of each of said

at least one droplet is kept constant.

8. The color ink-jet printer according to claim 1, further comprising first and second pulse generators operable to generate drive pulse signals to be applied to said first and second ink ejecting portions such that the total volume of said at least one droplet forming each dot of the black ink and the total volume of said at least one droplet forming each ink dot of said color other than black are changed by changing the volume of at least one of said at least one ink droplet to be ejected from each of said first and second ink ejecting portions.

9. The color ink-jet printer according to claim 1, wherein said second control portion is operable to control said second ink ejecting portion such that the total volume of said at least one droplet ejected by said second ink ejecting portion to form each ink dot of said color other than black is next smaller than said selected one total volume value.

10. The color ink-jet printer according to claim 1, further comprising a third ink ejecting portion operable to eject droplets of an ink of another color other than black, and a third control portion operable to control said third ink ejecting portion such that a total volume of at least one droplet of the ink of said another color other than black, which is ejected by said third ink ejecting portion to form each ink dot of said another color other than black on the recording medium, is equal to said

another of said plurality of different total volume values.

11. A color ink-jet printer comprising:

a first ink ejecting portion operable to eject droplets of a first ink of a first color;

a second ink ejecting portion operable to eject droplets of a second ink of a second color other than said first color;

a first control portion operable to control said first ink ejecting portion such that a total volume of at least one droplet of said first ink ejected by said first ink ejecting portion to form each dot of said first ink on a recording medium is equal to a first value, when an image is formed on the recording medium with a predetermined resolution, with a predetermined gray-scale value at a picture element corresponding to said each dot of said first ink; and

a second control portion operable to control said second ink ejecting portion such that a total volume of at least one droplet of said second ink ejected by said second ink ejecting portion to form each dot of said second ink on the recording medium, is equal to a second value smaller than said first value, when said image is formed on the recording medium with said predetermined resolution, with said predetermined gray-scale value at a picture element corresponding to said each dot of said second ink.

12. The color ink-jet printer according to claim 11, further comprising a third ink ejecting portion operable

to eject droplets of a third ink of a third color other than said first and second colors, and a third control portion operable to control said third ink ejecting portion such that a total volume of at least one droplet of said third ink ejected by said third ink ejecting portion to form each dot of said third ink is equal to a third value, when said image is formed on the recording medium with said predetermined resolution, with said predetermined gray-scale value at a picture element corresponding to said each dot of said third color.

13. The color ink-jet printer according to claim 12, wherein said third value is equal to one of said first and second values.

14. A color ink-jet printer comprising:

- a first ink ejecting portion operable to eject droplets of a black ink;
- a second ink ejecting portion operable to eject droplets of an ink of a color other than black;
- a pulse-waveform-data memory for storing pulse-waveform data indicative of a plurality of different waveforms corresponding to respective different total volume values of at least one droplet of each of the black ink and the ink of said color other than black;
- a first control portion operable to select, for said at least one droplet for forming each dot of said black ink on a recording medium, one of said plurality of different waveforms stored in

said pulse-waveform-data memory, and control said first ink ejecting portion to eject said at least one droplet, on the basis of the selected one of said plurality of different waveforms; and

a second control portion operable to select, for said at least one droplet for forming each dot of said color other than black on said recording medium, another of said plurality of different waveforms stored in said pulse-waveform-data memory, and control said second ink ejecting portion to eject said at least one droplet, on the basis of the selected another of said plurality of different waveforms,

wherein a total volume of said at least one droplet of said black ink ejected by said first ejecting portion is larger than a total volume of said at least one droplet of the ink of said color other than black ejected by said second ink ejecting portion.

15. The color ink-jet printer according to claim 14, further comprising a first pulse generator operable to generate a drive pulse signal to be applied to said first ink ejecting portion, on the basis of said one of said plurality of different waveforms selected by said first control portion, and a second pulse generator operable to generate a drive pulse signal to be applied to said second ink ejecting portion, on the basis of said another of said plurality of different waveforms selected by said second control portion.

16. The color ink-jet printer according to claim 14, wherein said first and second control portions are

operable to select said one and another of said plurality of different waveforms, on the basis of a presently selected one of a plurality of different print modes which correspond to respective different values of resolution of an image to be printed on said recording medium, irrespective of gray-scale values at respective picture elements of said image.

17. The color ink-jet printer according to claim 14, wherein said first and second control portions are operable to select said one and another of said plurality of different waveforms, on the basis of respective gray-scale values at respective picture elements of an image at which respective ink dots are to be formed by said first and second ink ejecting portions according to print data.